

Having thus described the invention, what is claimed is:

1. A circuit interruption device (110, 210, 310, 510, 610) comprising an interruption element (112, 212, 312, 512, 612) and a fuse element (114, 214, 314, 514, 614) coupled in parallel.

2. The circuit interruption device as recited in claim 1 wherein said interruption element comprises an electrical conductor (220, 518, 618), said electrical conductor being coupled with said fuse element in parallel.

3. The circuit interruption device as recited in claim 2 wherein said interruption element further comprises a current interrupter (224, 516, 616) capable of severing said electrical conductor.

4. The circuit interruption device as recited in claim 3 wherein said interruption element has an initial state and an actuated state, wherein when said interruption element is in said initial state said electrical conductor provides a conductive path parallel to said fuse element and when said interruption element is in said actuated state a gap (234) created in said electrical conductor by an actuation of said current interrupter prevents current from flowing through said electrical conductor.

5. The circuit interruption device as recited in claim 3 wherein when said interruption element is in said initial state, said interruption element provides a current carrying capacity that is greater than the current carrying capacity of said fuse element.

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6. The circuit interruption device as recited in claim 3 wherein said current interrupter comprises a pyrotechnic component (228).

7. The circuit interruption device as recited in claim 2 wherein said  
10 electrical conductor and said fuse element are formed by a stamping process.

8. The circuit interruption device as recited in claim 1 wherein said  
interruption element is in communication with a sensor (380), said interruption  
element being configured to actuate in response to a predetermined output signal  
15 from said sensor.

9. The circuit interruption device as recited in claim 8 wherein said sensor  
is configured to detect an overcurrent condition in a circuit.

20 10. The circuit interruption device as recited in claim 8 wherein said sensor  
is configured to detect a vehicle deceleration rate.

11. The circuit interruption device as recited in claim 8 wherein said sensor is configured to detect an airbag deployment.

12. The circuit interruption device as recited in claim 1 wherein said  
5 interruption element is in communication with a controller (382), said controller being configured to output a signal commanding said circuit interruption device to actuate.

13. The circuit interruption device as recited in claim 1 wherein said circuit  
10 interruption device is electrically connected in series with a power supply (364) and an electrical load (366, 368, 370).

14. A safety device (110, 210, 310, 510, 610) for connection in an electrical circuit, the safety device comprising:  
15 an electrical conductor (220, 414, 518, 618);  
a fuse element (114, 214, 314, 416, 514, 614) electrically connected with said electrical conductor in parallel; and  
a current interrupter (224) for interrupting flow of current through said electrical conductor by severing said electrical conductor.

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15. The safety as recited in claim 14 wherein said current interrupter is adapted to receive an interrupt control signal and further adapted to sever said electrical conductor in response to receiving said signal.

16. The safety device as recited in claim 14 wherein said electrical conductor provides a current carrying capacity that is greater than the current carrying capacity of said fuse element.

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17. The safety device as recited in claim 14 wherein said electrical conductor and said fuse element are integrally connected together.

18. The safety device as recited in claim 14 wherein said electrical  
10 conductor and said fuse element are connected in series between a power supply (364) and an electrical load (366, 368, 370).

19. A method for enhancing the safety of an electrical circuit (360) comprising the steps of:

15 providing an electrical conductor (220, 518, 618);

providing a fuse element (114, 214, 314, 514, 614);

electrically connecting said fuse element to said electrical conductor in parallel;

electrically connecting said electrical conductor and said fuse element in  
20 series with said electrical circuit;

providing a sensor (380) configured to detect a predetermined condition and to provide a signal indicating an occurrence of said condition; and

providing a current interrupter (224, 516, 616) capable of detecting said signal, said current interrupter being further capable of actuating in response to signal to sever said electrical conductor to eliminate the current carrying capacity of said electrical conductor.

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20. The method as recited in claim 19 further comprising the steps of:  
detecting an occurrence of said predetermined condition; and  
severing said electrical conductor to interrupt a flow of current through said electrical conductor.

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21. A method for enhancing the safety of an electrical circuit (360) comprising the steps of:

providing an electrical conductor (220, 518, 618);

providing a fuse element (114, 214, 314, 514, 614);

15 electrically connecting said fuse element and said electrical conductor in parallel;

electrically connecting said electrical conductor and said fuse element with said electrical circuit in series;

detecting a predetermined condition; and

20 severing said electrical conductor to eliminate its capacity to carry current.